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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,500	03/16/2004	Kaichang Li	245-67929-01	3653
24197	7590	05/02/2006	EXAMINER	
KLARQUIST SPARKMAN, LLP 121 SW SALMON STREET SUITE 1600 PORTLAND, OR 97204			NUTTER, NATHAN M	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/802,500	<b>Applicant(s)</b> LI ET AL.	
	<b>Examiner</b> Nathan M. Nutter	<b>Art Unit</b> 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-32 is/are pending in the application.
- 4a) Of the above claim(s) 13-18, 31 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-12 and 19-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08-05, 02-06</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Claims 13-18, 31 and 32 will NOT be rejoined with the elected claims, claims 1-3, 5-12 and 19-30, pursuant to MPEP 821.04, reproduced, in part, below.

In order to be eligible for rejoinder, a claim to a nonelected invention must depend from or otherwise require all the limitations of an allowable claim. A withdrawn claim that does not require all the limitations of an allowable claim will not be rejoined. Furthermore, where restriction was required between a product and a process of making and/or using the product, and the product invention was elected and subsequently found allowable, all claims to a nonelected process invention must depend from or otherwise require all the limitations of an allowable claim for the claims directed to that process invention to be eligible for rejoinder. See MPEP § 821.04(b). In order to retain the right to rejoinder, applicant is advised that the claims to the nonelected invention(s) should be amended during prosecution to require the limitations of the elected invention. **Failure to do so may result in a loss of the right to rejoinder.**

The Group II and Group III claims are not drawn to an adhesive, nor to a process of making that adhesive, nor to a process of using that adhesive. The stipulations of the Manual are NOT met, and the claims will NOT be re-joined.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

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351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3 and 6 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sarjeant (US 3,285,801).

The patent to Sarjeant (US 3,285,801) teaches the manufacture of a binder composition that may include "at least one lignin component; at least one amine compound; and at least one boron compound (claim 1)," using an industrial lignin (claim 3), in a "substantially formaldehyde-free" composition (claim 1) and using a polyamine (claim 6), as recited and claimed herein. Note column 5 (lines 21-64) for the inclusion of industrial lignin to which may be added borates (line 51) and hexamethylene tetramine (a polyamine) at (lines 53 et seq.). The resin is taught to be formaldehyde-free at column 4 (lines 62-75), as recited in claim 4.

### ***Claim Rejections - 35 USC § 103***

Claims 1-12 and 19-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarjeant (US 3,285,801) as applied to claims 1, 3 and 6 above, and further in view of Brode, III et al (US 6,716,421) or Blout (US 4,382,136).

The patent to Sarjeant (US 3,285,801) teaches the manufacture of a binder composition that may include "at least one lignin component; at least one amine compound; and at least one boron compound (claim 1)," using an industrial lignin (claim 3), in a "substantially formaldehyde-free" composition (claim 1) and using a polyamine (claim 6), as recited and claimed herein. The reference does not teach the use of a decayed lignocellulosic or demethylated lignin as recited in claims 2, 7-12 and 19-28.

The reference to Brode, III et al (US 6,716,421) teaches the use of lignin, or degraded or decayed lignin, in a composition that comprises a boron-containing compound and an amine compound, as herein claimed. Note column 3 (lines 60 et seq.) for the employment of boron compounds, specifically column 15 (lines 1-11 and 29-31), which, at the paragraph bridging column 15 to column 16, is included in amounts as recited and claimed herein. The reference shows the amine compounds at column 16 (lines 29-36 and 62-64). The lignin components are shown at column 16 (lines 8-26).

The patent to Blount (US 4,382,136) shows the use of broken down lignin, that may comprise decomposed plant material at column 2 (lines 5-13). Further, note column 1 (line 49) to column 2 (line 4). The patent teaches the inclusion of borates at column 7 (lines 42-49) and polyamines at the paragraph bridging column 7 to column 8.

The primary reference to Searjeant teaches essentially what is recited for the broad claims except that the employment of decayed or degraded lignins are not taught. The secondary references to Brode, III et al and Blount show these features to be conventional equivalents in compositions containing lignins. As such, employment of those lignins in the composition as disclosed by Searjeant would have been and obvious modification to a practitioner having an ordinary skill in the art. No unexpected results are shown on the record with regard to the choice of lignin materials since, even in a charred or degraded state lignin would maintain most of its chemical identity, as effective to produce the compositions as recited and claimed herein.

***Response to Arguments***

Applicant's arguments filed 17 February 2006 have been fully considered but they are not persuasive.

With regard to the rejection of claims 1, 3 and 6 as being rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sarjeant (US 3,285,801), it is pointed out that at column 4 (lines 72-75, the reference states that the "formaldehyde (formed from the 'hexa' becomes available for reaction during the curing of the formulation," and at column 2 (lines 51-53) that excess free-formaldehyde is removed, is indicative that there will be no free-formaldehyde in the adhesive composition since it is either removed or further reacted. With regard to Brode, III et al, the inclusion of a constituent will give that constituent the same capacity whether that capacity is recognized or not. The reference to Brode, III et al shows decayed wood. The source of lignin has not been shown to be critical and would be within the skill of an artisan to determine.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

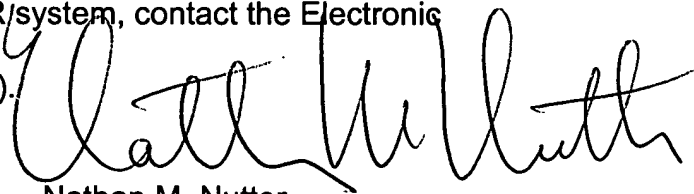
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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan M. Nutter whose telephone number is 571-272-1076. The examiner can normally be reached on 9:30 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR/system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nathan M. Nutter  
Primary Examiner  
Art Unit 1711

nmn

28 April 2006